



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/539,051	04/18/2006	Pia Merikoski	0365-0634PUS1	7385
2292 7590 01/27/2009 BIRCH STEWART KOLASCH & BIRCH PO BOX 747 FALLS CHURCH, VA 22040-0747				
EXAMINER CHIANG, TIMOTHY S				
ART UNIT 4131		PAPER NUMBER		
NOTIFICATION DATE 01/27/2009		DELIVERY MODE ELECTRONIC		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

mailroom@bskb.com

Office Action Summary

Application No.

10/539,051

Applicant(s)

MERIKOSKI, PIA

Examiner

TIMOTHY CHIANG

Art Unit

4131

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 April 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SF/ICE)
Paper No(s)/Mail Date 6/15/05
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-3, 6, 7, 9, 10, 12,13, and 16 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The term "large amount" in claims 1 and 2 is a relative term which renders the claim indefinite. The term "large amount" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention.

The term "as little as possible" in claims 1 and 2 is a relative term which renders the claim indefinite. The term "as little as possible" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention.

A broad range or limitation together with a narrow range or limitation that falls within the broad range or limitation (in the same claim) is considered indefinite, since the resulting claim does not clearly set forth the metes and bounds of the patent protection desired. See MPEP § 2173.05(c). Note the explanation given by the Board of Patent Appeals and Interferences in *Ex parte Wu*, 10 USPQ2d 2031, 2033 (Bd. Pat.

App. & Inter. 1989), as to where broad language is followed by "such as" and then narrow language. The Board stated that this can render a claim indefinite by raising a question or doubt as to whether the feature introduced by such language is (a) merely exemplary of the remainder of the claim, and therefore not required, or (b) a required feature of the claims. Note also, for example, the decisions of *Ex parte Steigewald*, 131 USPQ 74 (Bd. App. 1961); *Ex parte Hall*, 83 USPQ 38 (Bd. App. 1948); and *Ex parte Hasche*, 86 USPQ 481 (Bd. App. 1949). In the present instance, claim 3 recites the broad recitation "carried out under neutral or alkaline conditions", and the claim also recites "preferably at a pH of between 6-11" which is the narrower statement of the limitation.

In the present instance, claim 6 recites the broad recitation "the ratio of the weight of the dry woolen textile to water is between 1/10 – 1/40", and the claim also recites "preferably 1/20 – 1/40" which is the narrower statement of the range.

In the present instance, claim 7 recites the broad recitation "the temperature is from 35 to 55°C", and the claim also recites "preferably from 40 to 50°C" which is the narrower statement of the range.

In the present instance, claim 9 recites the broad recitation "the amount of protease used, as calculated in protein, is less than 8 mg/g (of dry knitted fabric)", and the claim also recites "preferably below 4.4 mg/g of dry knitted fabric" which is the narrower statement of the range.

In the present instance, claim 10 recites the broad recitation "the protease treatment time is from 15 to 60 (minutes)", and the claim also recites "preferably from 15-30 min" which is the narrower statement of the range.

In the present instance, claim 12 recites the broad recitation "the amount of protease used, as calculated as protein, is less than 35 mg/g (of fabric)", and the claim also recites "preferably less than 17.5 mg/g of dry fabric" which is the narrower statement of the range.

In the present instance, claim 13 recites the broad recitation "the protease treatment time is from 15-60 min", and the claim also recites "preferably from 15-45 min" which is the narrower statement of the range.

In the present instance, claim 16 recites the broad recitation "the final drying is carried out in a flat or hanging form", and the claim also recites "preferably at room temperature" which is the narrower statement of the limitation.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

Art Unit: 4131

1. Determining the scope and contents of the prior art.
 2. Ascertaining the differences between the prior art and the claims at issue.
 3. Resolving the level of ordinary skill in the pertinent art.
 4. Considering objective evidence present in the application indicating obviousness or nonobviousness.
3. Claims 1-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Miettinen-Oinonen et al. ("Modification of Wool Properties with Proteases" International Wool Textile Research Conference, November 2000, pages EN-P6 1-10 hereinafter "Miettinen") in view of McDevitt et al (US Patent 6,051,033 hereinafter "McDevitt") and further in view of Jovancic et al. ("The Efficiency of an Enzyme Treatment in Reducing Wool Shrinkage" J. Text. Inst., 1998, 89 Part 1, No. 2, pages 390-400 hereinafter "Jovancic").

In regards to Independent claims 1 and 2, Miettinen discloses a process for modifying knitted or woven wool textiles by protease enzyme treatment (pg. EN-P6, 1). Miettinen further discloses woven wool fabric to be treated at a textile-water ratio of 1:20, and knit wool fabric to be treated at a textile-water ratio of 1:25 (pg. EN-P6, 2) which the examiner construes as a "large amount of water" Miettinen further discloses the treatment carried out within the pots of a Linitest machine. The Linitest machine is a variable speed tumbler in which the rpm of its function may be adjusted. One of ordinary skill in the art at the time of the invention would find obvious the adjustment of the tumbler to run at various revolutions per minute, including 4-6rpm (pg. EN-P6, 2). Miettinen further discloses the treatment carried out at 50°C and for 60 minutes (pg. EN-P6, 2). Miettinen further discloses the treatment to include a final drying step for the treated wool to be air drying on a flat table (pg. EN-P6, 2).

Miettinen differs from the instant application in that, though Miettinen discloses inactivating enzyme by washing through 75°C at pH 4 (pg. EN-P6, 2), Miettinen does not disclose a lower temperature (specifically about or less than 60°C as taught by the instant claims) for enzyme inactivation. Miettinen further differs from the instant claims by not disclosing a drying process, or an intermediate machine drying step at 60°C or less, bringing residual moisture to 10-45% prior to air-drying.

In the same field of endeavor, McDevitt discloses a method of enzyme treating wool articles in the effort to improve shrink-resistance (abstract). McDevitt further discloses the process to include dyeing (col. 5, lines 13-15) and machine drying (col. 3, lines 54-56). McDevitt is analogous art in that the disclosures of McDevitt are drawn to

a method of enzyme treating wool articles in the effort to improve shrink-resistance. Also in the same field of endeavor, Jovancic discloses a method of protease-enzyme treating wool articles in the effort to improve shrink-resistance comprising a step of enzyme treatment with the serine-proteinase Bactosol SI and subsequent enzyme inactivation in a thermostatic bath at a temperature of 60°C (page 391, section 2.2.1). Jovancic is analogous art in that the disclosures of Jovancic are drawn to a method of protease-enzyme treating wool articles in the effort to improve shrink-resistance.

Miettinen's disclosure of a process for modifying knitted or woven wool textiles by protease enzyme treatment in a large amount of water carried out at 50°C and for 60 minutes, then inactivating enzyme treatment by washing through 75°C at pH 4 and followed by air drying on a flat table (pg. EN-P6, 2), combined with McDevitt's disclosure on dyeing (col. 5, lines 13-15) and machine drying (col. 3, lines 54-56), and further combined with Jovancic's disclosure on enzyme inactivation in a thermostatic bath at a temperature of 60°C (page 391, section 2.2.1) encompasses the instant claims in their entirety.

Miettinen's disclosure of a process for modifying knitted or woven wool textiles by protease enzyme treatment is combined with McDevitt's disclosure on dyeing and machine drying because both references are drawn to a method of protease-enzyme treating wool articles in the effort to improve shrink-resistance. McDevitt's discloses such a method to be applied on dyed wool textiles, and for the treated textiles to be machine dried post enzyme-treatment. In the endeavor of protease-enzyme treating wool articles in the effort to improve shrink-resistance, the two references teach air

drying and machine drying. One skilled in the art at the time of the invention would find obvious to consider both drying methods as viable and therefore an intermediate machine drying step including such providing for 10%-40% residual moisture at 60°C would be considered obvious. Miettinen's disclosure of a process for modifying knitted or woven wool textiles by protease enzyme treatment is combined with Jovancic's disclosure on enzyme inactivation temperature of 60°C because both references are drawn to a method of protease-enzyme treating wool articles in the effort to improve shrink-resistance with the use of a serine protease such as Bactosol. Therefore it would have been obvious to one skilled in the art at the time of invention to consider 60°C as a suitable temperature for enzyme inactivation.

In regards to instant claim 3, Miettinen further discloses the treatment carried out at a pH of 7 (pg. EN-P6, 2).

In regards to instant claim 4, Miettinen further discloses the treatment carried out with the use of Bactosol WO and other serineproteases (see Table I and pg. EN-P6, 4).

In regards to instant claim 5, Miettinen further discloses the treatment carried out within the pots of a Linitest machine. The Linitest machine is a variable speed tumbler in which the rpm of its function may be adjusted. One of ordinary skill in the art at the time of the invention would find obvious the adjustment of the tumbler to run at various revolutions per minute, including 4-6rpm (pg. EN-P6, 2).

In regards to instant claim 6, Miettinen further discloses woven wool fabric to be treated at a textile-water ratio of 1:20, and knit wool fabric to be treated at a textile-water ratio of 1:25 (pg. EN-P6, 2).

In regards to instant claim 7, Miettinen further discloses the treatment carried out at 50°C (pg. EN-P6, 2).

In regards to instant claim 8, Miettinen further discloses knit wool fabric to be treated (pg. EN-P6, 2).

In regards to instant claim 9, Miettinen further discloses the wool fabric treated with 1mg/g and 5mg/g of protease to fabric concentrations (pg. EN-P6, 2).

In regards to instant claim 10, Miettinen further discloses the wool fabric treated for 60 minutes (pg. EN-P6, 2).

In regards to instant claim 11, Miettinen further discloses woven wool fabric to be treated (pg. EN-P6, 2).

In regards to instant claim 12, Miettinen further discloses the wool fabric treated with 1mg/g and 5mg/g of protease to fabric concentrations (pg. EN-P6, 2).

In regards to instant claim 13, Miettinen further discloses the wool fabric treated for 60 minutes (pg. EN-P6, 2).

In regards to instant claim 14 and 15, Miettinen's disclosure of a process for modifying knitted or woven wool textiles by protease enzyme treatment is combined with McDevitt's disclosure on wrung drying (col. 10, line 53) and machine drying because both references are drawn to a method of protease-enzyme treating wool articles in the effort to improve shrink-resistance. In the endeavor of protease-enzyme

treating wool articles in the effort to improve shrink-resistance, the two references teach air drying, wrung drying, and machine drying. One skilled in the art at the time of the invention would find obvious to consider a plurality of drying methods as viable and therefore an intermediate spin drying step including such providing for 50%-70% residual moisture and a machine drying step including such providing for 10%-30% residual moisture would be considered obvious.

In regards to instant claim 16, Miettinen further discloses the treatment process to allow treated wool to flat dry (pg. EN-P6, 2).

In regards to instant claim 17, McDevitt further discloses the fabric dyed prior to the enzymatic treatment (col. 4, line 66 – col. 5, line 3).

In regards to instant claim 18, McDevitt further discloses the dyeing and enzymatic treatment of wool article in conjunction, which one of ordinary skill in the art at the time of the invention would find obvious that such process carried out together would include wet processes such as in a bath (col. 5, lines 13-15).

In regards to instant claim 19, Miettinen further discloses the process to include enduring 5 wash cycles and show fabric shrinkage of less than 3% (pg. EN-P6, 8).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to TIMOTHY CHIANG whose telephone number is (571)270-7348. The examiner can normally be reached on Monday - Thursday 9:00AM-5:00PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Sample can be reached on 5712721376. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/David R. Sample/
Supervisory Patent Examiner, Art Unit 4131

/TIMOTHY CHIANG/
Examiner, Art Unit 4131